

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1. (currently amended) A wireless system, comprising:
 - a wireless LAN,
 - an access point,
 - at least one communications device communicating within said wireless LAN via said access point, and
 - a controller,
 - the access point including a data communicator for communicating data with said at least one communications device over downlink and uplink channels using different first and second wireless technologies, respectively, ~~wherein each of the wireless technologies is one of 802.11*, Hiperlan/2, Bluetooth or Home RF,~~
said at least one communications device including a further data communicator for communicating data with said access point over said downlink and uplink channels using said first and second wireless technologies, respectively,
wherein the first wireless technology arranged to be used for the downlink channel is arranged to operate at a first frequency bandwidth and at a first data rate,
the second wireless technology arranged to be used for the uplink channel is arranged to operate at a second frequency bandwidth non-overlapping with the first frequency bandwidth, and at a second data rate lower than the first data rate, and
the controller is arranged for controlling data communications over the downlink channel and the uplink channel to maximize the usage of the bandwidth of the downlink channel, and
said at least one communications device comprises different first and second antennas
and the further data communicator of said at least one communications device comprises

different first and second sections coupled with said first and second antennas, respectively, for handling data communications using said first and second wireless technologies, respectively.

2. (canceled)

3. (previously presented) A wireless system as claimed in claim 1, wherein said at least one communications device is arranged to transmit a service request signal on the uplink channel, and the controller is arranged to control the bandwidth on the downlink channel to said at least one communications device in response to the service request signal received from that device.

4. (currently amended) A method of controlling data communications in a wireless LAN, the method comprising steps of:

at least one given mobile communications device communicating within said wireless LAN via an access point;

the access point directly communicating data to the given mobile communications device on a downlink channel using a first wireless technology;

the given mobile communications device directly communicating data to the access point on an uplink channel using a second wireless technology; the first and second wireless technologies being different wireless technologies, operating at non-overlapping first and second frequency bandwidths, respectively, the first wireless technology operating at a faster data rate than the second wireless technology; and

controlling data communications over the downlink channel and the uplink channel to maximize the usage of the bandwidth of the downlink channel;

wherein each of the wireless technologies is one of 802.11x, Hiperlan/2, Bluetooth or HomeRF said at least one mobile communications device comprises different first and second antennas, and respective different first and second transceiver sections coupled with said first and second antennas, respectively, for handling data communications using said first and second wireless technologies, respectively.

5. (Original) A method as claimed in claim 4, wherein the data communicated from the given mobile communications device to the access point includes a service request.

6. (previously presented) A method as claimed in claim 5, further comprising controlling the bandwidth on the downlink channel in response to the service request sent by the given mobile communications device.

7. (previously presented) A method as claimed in claim 5, wherein the data communicated from the given mobile communications device to the access point further includes uplink control signals.

8. (Original) A method as claimed in claim 4, further comprising controlling data communications so that any spare capacity on the uplink channel is used for downloading data from the access point to the given mobile communications device.

9. (Original) A method as claimed in claim 4, further comprising controlling data communications so that each of the wireless technologies is used for both uploading and downloading data to and from the access point.

10-12. (canceled)

13. (currently amended) A method of controlling data communications in a wireless LAN, the method comprising steps of:

at least one given mobile communications device communicating within said wireless LAN via an access point;

the access point directly communicating data to the given mobile communications device on a downlink channel using a first wireless technology;

the given mobile communications device directly communicating data to the access point on an uplink channel using a second wireless technology; the first and second wireless technologies being different wireless technologies, operating at non-overlapping first and second

frequency bandwidths, respectively, the first wireless technology operating at a faster data rate than the second wireless technology; and

controlling data communications over the downlink channel and the uplink channel to maximize the usage of the bandwidth of the downlink channel;

A method as claimed in claim 4, wherein data is communicated between the access point and the given mobile communications device simultaneously on both said downlink and uplink channels using said different first and second wireless technologies, respectively.

14. (previously presented) A method as claimed in claim 8, wherein data is communicated between the access point and the given mobile communications device simultaneously on both said downlink and uplink channels.

15. (currently amended) A method as claimed in claim [[14]] 13, wherein data is downloaded from the access point to the given mobile communications device simultaneously on both said downlink and uplink channels, using an entire capacity of said downlink channel and [[the]] any spare capacity of the uplink channel;

a remaining capacity of the uplink channel being simultaneously used for uploading data from the given mobile communications device to the access point.

16. (previously presented) A method as claimed in claim 14, further comprising controlling data communications so that each of the wireless technologies is used for both uploading and downloading data to and from the access point.

17. (previously presented) A wireless system as claimed in claim 1, wherein said controller is within the access point.

18-20. (canceled)

21. (new) A wireless system, comprising:
a wireless LAN,

an access point,
at least one communications device communicating within said wireless LAN via said access point, and
a controller,
the access point including a data communicator for communicating data with said at least one communications device over downlink and uplink channels using different first and second wireless technologies, respectively,
said at least one communications device including a further data communicator for communicating data with said access point over said downlink and uplink channels using said first and second wireless technologies, respectively,
wherein the first wireless technology arranged to be used for the downlink channel is arranged to operate at a first frequency bandwidth and at a first data rate,
the second wireless technology arranged to be used for the uplink channel is arranged to operate at a second frequency bandwidth non-overlapping with the first frequency bandwidth, and at a second data rate lower than the first data rate, and
the controller is arranged for controlling data communications over the downlink channel and the uplink channel to maximize the usage of the bandwidth of the downlink channel, wherein data is communicated between the access point and the at least one mobile communications device simultaneously on both said downlink and uplink channels using said different first and second wireless technologies, respectively.

22. (new) A wireless system as claimed in claim 21, wherein the controller is further arranged for controlling
data downloading from the access point to the at least one mobile communications device simultaneously on both said downlink and uplink channels, using an entire capacity of said downlink channel and any spare capacity of the uplink channel; and
data uploading from the given mobile communications device to the access point using a remaining capacity of the uplink channel.

23. (new) A wireless system as claimed in claim 1, wherein each of the wireless technologies is one of 802.11x, Hiperlan/2, Bluetooth or Home RF.

24. (new) A method as claimed in claim 4, wherein each of the wireless technologies is one of 802.11x, Hiperlan/2, Bluetooth or Home RF.

25. (new) A method as claimed in claim 13, wherein each of the wireless technologies is one of 802.11x, Hiperlan/2, Bluetooth or Home RF.

26. (new) A method as claimed in claim 15, wherein each of the wireless technologies is one of 802.11x, Hiperlan/2, Bluetooth or Home RF.

27. (new) A wireless system as claimed in claim 21, wherein each of the wireless technologies is one of 802.11x, Hiperlan/2, Bluetooth or Home RF.

28. (new) A wireless system as claimed in claim 22, wherein each of the wireless technologies is one of 802.11x, Hiperlan/2, Bluetooth or Home RF.